CLAIMS

1. A method for amplifying ATP comprising: allowing a fusion protein of a polyphosphate kinase and an adenylate kinase to act on a mixture containing ATP, AMP, and a polyphosphate compound.

2. The method of claim 1, wherein the fusion protein of a polyphosphate kinase and an adenylate kinase is a fusion protein that does not contain ADP.

3. A method for detecting ATP comprising:

allowing a fusion protein of a polyphosphate kinase and an adenylate kinase to act on a mixture of ATP, AMP, and a polyphosphate compound to amplify ATP; and

detecting the amplified ATP.

4. The detection method of claim 3, wherein the fusion protein of a polyphosphate kinase and an adenylate kinase is a fusion protein that does not contain ADP.

5. A method for rapidly detecting the presence of a microorganism comprising:

treating a sample containing a microorganism to prepare a sample containing ATP;

adding the sample containing ATP to an ATP amplification system to amplify ATP; and

detecting the amplified ATP,

wherein the ATP amplification system comprises AMP, a polyphosphate compound, and a fusion protein of a polyphosphate kinase and an adenylate kinase, the fusion protein not containing ADP.

6. A kit for rapidly detecting the presence of a microorganism, comprising an ATP amplification reagent containing AMP, a polyphosphate compound, and a fusion protein of a polyphosphate kinase and an adenylate kinase, the fusion protein not containing ADP; and an ATP detection reagent for detecting ATP.

7. The kit of claim 6, further comprising a cell lysis reagent.

8. A method for amplifying ATP by allowing an adenylate kinase and a polyphosphate kinase that does not contain ADP to act on a mixture of ATP, AMP, and a polyphosphate compound.

9. A fusion protein of a polyphosphate kinase and an adenylate kinase.

10. A fusion protein of a polyphosphate kinase and an adenylate kinase, which does not contain ADP.